Amendments to the Specification

Page 1, line 3, delete the paragraph entitled "Related Application" in its entirety and substitute therefor the following, noting that the heading of this paragraph is properly underlined:

Cross Reference to Related Patent Applications

This application is based on provisional United States applications 60/032,831, filed 13 December 1996 and 60/045,343, filed 4 May 1997, the benefit of the priority of both of which is claimed under 35 USC 119, and is a continuation-in-part of United States design patent application 29/071,503 filed 30 May 1997 which issued 9 May 2000 as U.S. D424,587, the priority of which is claimed under 35 USC 120.

Please amend the last paragraph on page 1 as follows:

Gravimetric blenders operate by blending solid plastic resin material components and additives, by weight, in batches. Typically batches of material may consist of several solid resin material components.

Please amend the first paragraph on page 2 as follows:

Gravimetric blenders operate by blending solid plastic resin material components and additives, by weight, in batches. ~~Typically batches of material may consist of several solid Gravimetric blenders operate by blending solid plastic resin material components and additives, by weight, in batches.~~ Typically batches of material may consist of several solid material components. One of these may be "regrind", consisting of ground plastic

resin which had previously been molded or extruded and which either resulted in a defective product or was excess material not formed into a desired product.

Please amend the last paragraph on page 2, continuing on page 3, as follows:

The gravimetric blender as originated by the applicant and as copied widely throughout the world typically includes hoppers for each of the components of the solid material to be blended together. Typically several hoppers or several components ~~compartments~~ in a hopper may be provided, such as one compartment for "regrind" material, one compartment for "natural" material, one component for solid color additive material and one compartment for "additive". When the gravimetric blender operates, the unit desirably operates automatically, adding each of the component solid materials in the proper, desired percentages. Each solid material component is dispensed by weight into a single weigh bin. Once the proper amounts of each component have been serially dispensed into the weigh bin, all of the components are dropped together into a mixing chamber from the weigh bin.

Please amend the first full paragraph on page 3 as follows:

Mixing is performed, preferably continuously, and preferably even as additional batches component are dispensed ~~in~~ into the mixing chamber. When mixing is complete, the resulting blend is preferably provided directly to the desired molding or extrusion machine.

Please amend the second paragraph on page 4 as follows:

Desirably, the means for actuating the valve is fixedly connected to the hopper, the actuating means is at least partially within the hopper, the valve means is at least partially within the hopper[[,]] and the hopper is manually removable from the frame. Quick-connect fittings are provided to connect and disconnect the actuator to control means for the blender. The blender further includes a plurality of hoppers, each with valve means therewithin and respective individual valve actuation means. The actuating means is pneumatically driven and includes a vertically elongated member for transmitting motion to the valve.

Please amend the third paragraph on page 4, continuing on page 5, as follows:

The gravimetric blender includes a frame, a weigh bin, means connected to the frame for sensing weight of material in the bin, a mix chamber below the bin and connected to the frame [[,]] and means connected to the frame for selectively contacting and opening the bin to release material in the bin downwardly into the mix chamber. The blender further preferably includes means for biasing an openable portion of the bin towards a closed position; the openable portion is preferably movable about a pivot; the openable portion preferably pivots about a horizontal axis; the means for selectively contacting and opening the bin is preferably pneumatically actuated; the means for selectively contacting and opening the bin is preferably a piston-cylinder combination; the cylinder is preferably outboard of the frame; the piston preferably moves transversely to the axis about which the openable portion pivots; the piston may contact the bin directly or indirectly; the openable portion is preferably pivotally connected to a remaining, stationary portion of the bin.

Please amend the second full paragraph on page 10, continuing on page 11, as follows:

It is noted that the valve member 40 passes through the hollow chamber 38 with ample clearance. At its lower end, the valve member 40 slidably engages in an valve opening or orifice 80 in a bottom wall 81 of the hopper 12. Both the granular or powdered material within the hopper 12 may only discharge through the opening 80 by passing through the center of the hollow valve element 40. When withdrawn to the closed position shown in Fig. 5, the hollow interior of the valve element 40 remains in communication with the valve opening 80, but because the port 90 enters the chamber 38 to a position above the open bottom end, the granular or pulverulent material in the hopper 12 cannot readily flow into the port 90 to the interior of the hollow valve element 40 and through the bottom opening 80. To be effective, the granular or pulverulent material must have a characteristic angle of repose greater than 0° so that when the valve element 40 is withdrawn into the chamber 38 above ~~its~~ open lower end 82, the material in the hopper 12 does not rise through the open bottom of the chamber 38. Thus, the chamber 38, the hollow valve element 40 and the circular opening 80 in the bottom wall 81 of the hopper cooperate to define the bottom valve means 19 for each of the hoppers.

Please amend the first full paragraph on page 11 as follows:

The hollow valve member 40 is connected to a movable piston shaft 42 of piston-cylinder combination 18 as illustrated in Fig. 4. Hollow valve member 40 and piston shaft 42 are housed within a chamber designated generally 38 in the drawings and

illustrated in stand-alone form in Figures 7, 8 and 9. Chamber 38 is of generally rectangular configuration, as illustrated in Figure 9, and has two adjoining closed sides 52, 54 and two adjoining open sides 56, 58, all as illustrated in Figure 9. Open sides 56, 58 of chamber 38 (and therefore chamber 38) are secured to a sloping wall 60 and extends along an adjoining vertically-oriented wall 62 of a hopper 12. Walls 60, 62 adjoin one another at a right angle and combine with the sides 52 and 54 to form the rectangular chamber 38 which is closed at ~~the~~ top defined by chamber end wall 66 and is open at ~~the~~ bottom 82 (see Fig. 7).

Please amend the first paragraph on page 14 as follows:

Piston-cylinder combination 18 is preferably a spring-loaded piston-cylinder combination such that a spring within the cylinder serves always to urge the piston portion of the combination vertically upwardly considering Figures 4 and 5 into the position at which the port 90 of tubular valve member 40 does not confront the interior of hopper 12 and hence valve assembly 19 is closed. Application of pneumatic pressure to piston-cylinder combination 18 drives the piston of the combination downwardly, against the force of the spring, thereby moving the port 90 of tubular valve member 40 into ~~the~~ position confronting the interior of the hopper, whereby ~~the~~ valve 19 is open. The valve member remains open for so long as the pneumatic pressure is applied to piston-cylinder combination 18. When the pneumatic pressure is released, the spring forces the piston vertically is upwardly in Figures 4 and 5, thereby closing valve member 19.

Please amend the third full paragraph on page 16, continuing on page 17, as follows:

The hook portion 182 and abutment 186 permit weigh bin 15 and particularly weigh bin bracket 156 to move slidably horizontally, in a direction perpendicular to the plane of the paper in Figure 10, to be positioned so that weigh bin 15 effectively hangs on and is cantilevered from load cell 32. Load cell 32 senses the weight load of weigh bin ~~IS~~ 15 and any material contained therein.

Please amend the first full paragraph on page 22 as follows:

Dump flap 120 includes a pair of upstanding wall portions 122, 124, both of which extend generally vertically upwardly from a planar bottom portion 126. Dump flap 120 further includes an angled bottom portion 128 which is positioned at an angle to essentially ~~complementary~~ complementally fit against sloped downwardly facing surface 118 of basket 108, as shown in Figure 11.

Please amend the last paragraph on page 23, continuing on page 24, as follows:

Weigh bin 15 is connected to load cell 32 through an aperture in solid side panel 30C of frame 14[[,]] by complementary brackets 156 and 186, as illustrated in Figure 10. Other suitable means for mounting weigh bin respecting load cell 32 are disclosed in ~~pending~~ United States patent application 08/763,053, filed in the name of Stephen B. Maguire on 10 December 1996, and pending Patent Cooperation Treaty patent application PCT/US96/19485, filed 10 December 1996 by Maguire Products, Inc., the disclosures of which are incorporated as reference.

Please amend the first full paragraph on page 24 as follows:

To afford thorough mixing of the blended materials deposited in ~~the~~ mixing chamber 20 by operation of ~~the~~ dump flap 120, mixing agitator 22 is rotatably journaled ~~on~~ in preferably transparent, removable front panel 17 of frame 14. Panel 17 fits closely along forwardly facing edges of solid side panels 30A and 30C and is fixed thereto via quick release, hand-actuated clips designated generally 144 in Figure 3. These clips are mountingly connected to a horizontal bar 140 extending across front panel 17 at a lower portion thereof, which provides a solid, preferably metal receptacle mounting for journaling of agitator 22 in transparent removable front panel 17.

Please amend the first full paragraph on page 26 as follows:

Agitator 22 is driven in a manner to reciprocatingly rotate so that agitator 22 rotates about axis 24 defined by central shaft 140 through an angle of about ~~270o~~ 270° and then reverses, rotating in the opposite direction thorough an angle of about 270°. This is accomplished by using a drive means 26 having two pneumatically driven piston-cylinder combinations reciprocating a rack to which a pinion gear is connected. This drive means is a purchased item and is mounted on the exterior of a rear panel 30B of frame 14 in position to provide coaxial driving rotation of agitator 22.

Please amend the second full paragraph on page 26 as follows:

Means for coupling and decoupling agitator 22 to the reciprocating rotational drive means is provided by a coupling assembly having male and female members which

are illustrated generally in Figures 13 and 14. The smaller of the two members forming the coupling is a shaft 158 which is generally cylindrically configured with an axially-extending flat 160 in its cylindrical exterior surface. Female member 170 is of generally cylindrical configuration, with a ~~bore 172 having a~~ longitudinal bore 176 extending the longitudinal length thereof with a complementary flat 178 formed in bore 176 for fitting about the driving shaft 158 providing the source of reciprocating rotational movement for agitator 22.

Please amend the second full paragraph on page 28 as follows:

In the variation of this valve which is illustrated in Figures 6 and 8, where the hemispheric or half-circular opening in a tubular portion is covered at the bottom and has a wall running upwardly, ~~this~~ tubular valve member 40A may be reciprocated up and down to provide very accurate downward metering of material. When such accurate metering of material is desired, a stroke limiter may be used on the rod 42 which connects the associated piston.

Please amend the first full paragraph on page 30 as follows:

Respecting mixing chamber 20, mixing chamber 20 is equipped with a curved side and bottom member which slides into ~~an~~ and out of the mixing chamber. This curved member is visible in Figure 3, and is sometimes referred to as a mix chamber insert slide. The slide rests on a plastic saddle 184 which is visible in Figure 3 and is secured to the metal bottom 186 of frame 14. Solid side panels 30A, 30B and 30C of frame 14 are preferably welded to bottom 186 along the three sides of respective contact

therewith. Bottom 186 preferably protrudes forwardly relative to sides 30 so as to provide a bottom support transom for transparent removable front panel 17 when panel 17 is in place on blender 10.

Please amend the second full paragraph on page 30 as follows:

Yet another feature of the invention is with agitator 22 being journaled within and removable unitarily with transparent removable front panel 17, there is no need for any interlock between front panel 17 and the drive means providing the reciprocating rotational drive for the agitator. Since agitator 22 is removed with transparent front panel 17, whenever panel 17 is removed[[,]] the only moving part remaining in the mixing chamber is the rotating shaft member 158.